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JUNE 1957

AGRICULTURAL MARKETING



IN THIS ISSUE

Moving the milk supply
Hundredweight or bushel?
Cotton for men's summer wear

7/6



JUNE IS DAIRY MONTH

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JUNE 1957

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Cover

Each June, when supplies of fluid milk and other dairy products reach their seasonal peak, the dairy industry celebrates "June Is Dairy Month"—a drive to focus public attention on dairy foods. Because of the seasonal abundance of nutritious dairy products, USDA is supporting industry's campaign. The cover page is in keeping with this campaign. Members of the dairy industry will also be interested in the article, "Moving the Milk Supply," which appears on pages 10 through 14. It was prepared by three AMS staff members: Herbert Kriesel discusses the gap between production and consumption of milk; Tom Lanahan reports on patterns in household consumption of dairy products; and Mardy Myers follows some of the merchandising changes taking place in the dairy industry.

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Editor (acting), Milton Hoffman; assistant editor, Jeanne Starr Park

COTTON**5****10****12****20.8%****0****5****11****60.4%****0****25****50**

Cotton leads in men's Summer Wear

By Daniel B. Levine
and
Milton Jacobs



COTTON hit .822 in the men's Shirt and Summer Slack League last year.

At least, that's the average the Market Development Branch of Agricultural Marketing Service figured after interviewing 2,379 men 16 years and over. Considered a representative sample of all men in the country, this group gave cotton the lead in their summer wardrobes.

Those interviewed said they owned more summer sport shirts, business dress shirts, and summer slacks made of cotton than of any other fiber. Cotton ownership averages stacked up as follows: 99 percent for business dress shirts, 95 percent for sport shirts, and 48 percent for summer slacks or separate trousers.

In addition to finding out what men owned, researchers asked what they preferred. In the fight for the "preference" title, cotton's average was 72 percent for sport shirts, 90 percent for dress shirts, and 24 percent for summer slacks. In each case, these percentages showed a higher preference for cotton than for any other fiber.

Besides these "everyday" clothes, AMS personnel scouted two "leisure-time" summer items—Bermuda shorts and swimming trunks.

Although only 11 percent of the men interviewed owned and wore Bermuda shorts during the past 12 months, 68 percent of these said they preferred cotton shorts. Linen, cotton's closest rival in this division, racked up only an 8 percent preference score.

In the case of swimming trunks, the type rather than the material was asked about. Six men in 10 liked woven swimming trunks, 2 in 10 favored lastex. Less than 1 in 10 preferred knit swimming trunks.

The reason most men preferred cotton for their summer clothes was simply because "it's cool." Some mentioned that it was "lightweight, or thin." A good

many like the way cotton launders. They point out that it "washes well" or is "easily laundered." Durability and wearing qualities as well as general appearance were also mentioned.

Two other important articles of men's clothing—summer suits and summer sport coats or jackets—were discussed by those interviewed. For these the preferred fabric was wool, followed by cotton and rayon.

Forty-three percent of the men listed wool as their choice for summer sport coats or jackets; 29 percent favored it for summer suits. About 16 percent liked cotton sport coats or jackets, and 9 percent preferred cotton for suits.

Most men chose wool for these items because of its wearing qualities. They made such comments as "fabric holds up well," "holds shape, will not stretch or shrink," and "keeps a press."

The appearance of wool came next in importance. Those interviewed felt it was "dressier, neater, more tailored" than other fibers used for summer suits and sport coats or jackets.

To see how well actual buying habits bear out stated preferences, research personnel asked one final question: "Did you purchase any of these items in the last year and, if so, what fibers did you choose for each?"

Between a third and a half of the men owning any one item of clothing had bought such an item within the last year. Cotton was the leading fiber purchased for four of these—business dress shirts, sport shirts, Bermuda shorts, and summer slacks. For the remaining two items, summer sport jackets and summer suits, the fiber selected most often was wool.

As you can see, both cotton and wool are batting well in male summer wardrobes. Although the statistics are selective and cover only a few items of men's apparel, they do reflect consumer preferences in fibers for summer clothing.

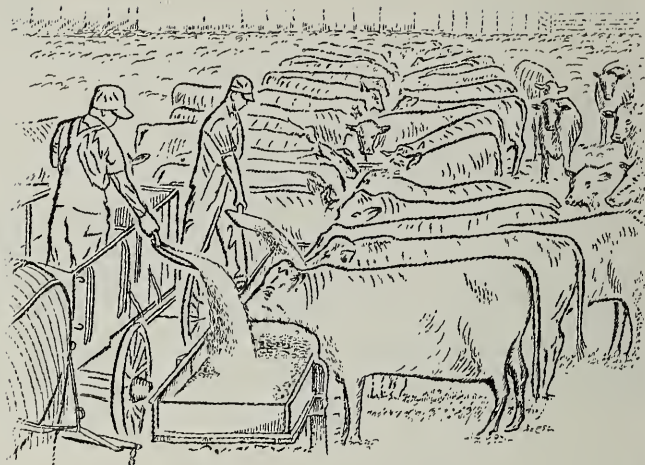
Both Daniel Levine and Milton Jacobs are project directors in the Market Development Branch, Marketing Research Division, AMS.



BUSHEL OR HUNDREDWEIGHT ?

*By William A. Faught
and*

Woodrow A. Schlegel



Farmers would find it easier to compare feeding values and the prices of various grains if the hundredweight measure were used.

SHOULD the trading unit for grain be changed from the bushel to the hundredweight measure?

That is the question confronting the grain industry.

Advantages can be found for both sides. And disadvantages, too. These vary with the group concerned—the farmer, national farm and trade organizations, State and Federal government agencies, grain exchanges, and a number of individual firms.

To find out just how each group feels about the proposed change, the Marketing Research Division of AMS made a survey of all segments of the grain industry. The survey report made no recommendation either for or against a change.

Generally, the groups interviewed agreed that, after a transitional period, two principal advantages would result from changing to the hundredweight measure.

First, conversions from bushels to pounds and vice versa, now necessary in many cases, would be largely eliminated. A saving in time and work would be effected, and a good deal of the chance of error eliminated.

Second, farmers and traders would find it easier to compare prices and feeding values of the different grains if all were on an equal weight basis rather than on the basis of bushels which vary widely in weight.

Disadvantages were considered more numerous, but at the same time more transitory. Mainly, they involved the mental adjustment necessary in shifting from the bushel to the hundredweight. Changes also would be required in forms and office procedures, in trading practices and in legislation dealing with the grain industry. In addition, it would be necessary to revise historical data to bring it into line with the new unit of measure.

If the shift in the trading unit were made, most groups would prefer it to be done in the “wintertime” or January 1. All feel that any proposed change should be announced at least a year in advance. Some groups even indicated that it might take considerably longer to make the necessary preparations for the shift, particularly for the revision of legislation.

But let’s start with the farm organizations. How do they feel about changing to the hundredweight?

Several national farm organizations have passed resolutions endorsing the proposed shift. These groups feel it would be a definite advantage to the farmer. The change would make it easier for many farmers to compare feeding values and the prices of various grains.

As a whole, these organizations felt that farmers could probably adjust easily to the new system. Not too much preparation would be necessary. Winter would be the best time for them, since it would allow the start of new leases on the new trading unit.

Moving to the country elevator, AMS personnel found the situation here more complicated. Elevator operators do a lot of converting from pounds to bushels and back again—not once, but several times.

If these numerous conversion calculations could be eliminated, it would be a big help. Shifting of office procedure from manual to machine operations would be easier and much of the possibility of error reduced.

But such a shift has its complications, too. New tariff sheets would be necessary. In some States—Minnesota, the Dakotas, and Montana, for example—legislation might be needed to permit this change.

Within the elevator itself, a shift in the unit of measure would call for a complete change in format of all scale tickets, warehouse receipts, warehousemen’s

The authors are agricultural economists with the Grains and Feeds Section, Marketing Organization and Costs Branch, AMS.



Elevators make a lot of conversions from pounds to bushels and back again. Here, a uniform trading unit would be a big help.

supplemental certificates, and other forms or instructions. Also, all inventory records, historical series for at least a year, and outstanding receipts might need conversion for the elevator or parent office or firm.

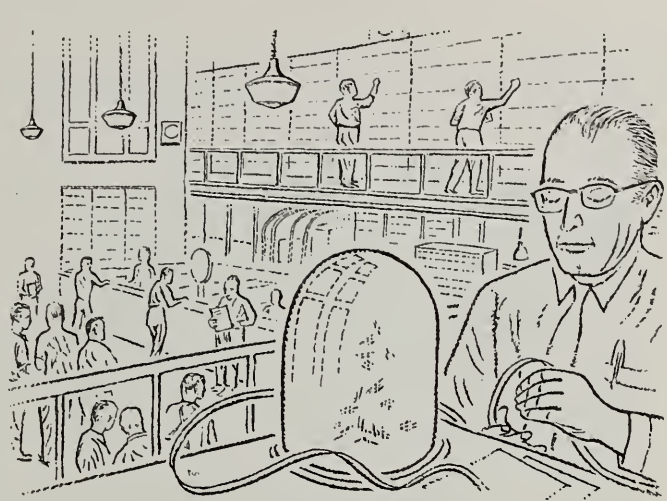
Similar changes would be necessary for other handlers of grain—commission men, brokers, and jobbers who buy or sell on the spot-cash or futures market. They would need to reorganize office procedures.

The principal advantage, according to this group, would be in reorienting its own thinking. Efficient merchandising operation depends to a great extent on the experience and knowledge developed over a long period in the grain trade. In the past, this experience has been in bushels. The substitution of a new unit might reduce efficiency and create a serious handicap during the transition period for this segment of the trade.

Furthermore, a complete reorganization in trading procedure would be necessary if the hundredweight were adopted. Grain exchanges would have to alter many of their rules and regulations, as well as the wording of contracts, margin requirements, commissions, units of trading, and the basis for determining the prices quoted on the market.

Dealings on the futures market would present a special problem. Since futures contracts become active 11 months in advance of their maturity date, some contracts expressed in bushels would be outstanding at the time of the shift. Thus, dealings would continue for almost a year on the basis of both the hundredweight and the bushel.

Another group that would be vitally affected by any change in unit measure would be the processors—distillers, flour millers, feed millers, and soybean and corn processors. These people also make many con-



Dealings on the futures market would present a special problem for grain exchanges during the period of the shift in measure.

versions from bushel to hundredweight. They are constantly comparing the prices of one grain with another. For example, they must be able to quickly interpret how 72 cents per bushel of oats compares with \$1.38 a bushel for corn. Because weights per bushel are different, it presents quite a problem. If each price were expressed on a hundredweight basis, a direct comparison would be possible.

Of course, a shift to the hundredweight measure would involve the usual disadvantages of mental readjustment and statistical revision. Yet in the long run, processors feel they would save both time and money by the adoption of a uniform measurement.

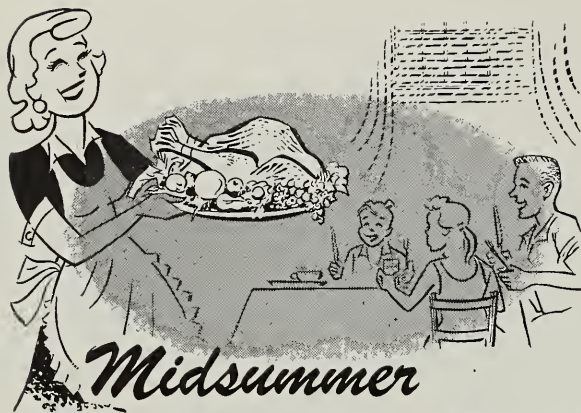
Also contacted in the AMS survey were banking institutions and insurance firms. Neither of these groups feel a change from bushel to hundredweight would particularly affect them.

The contracts used by banks in making loans have blanks that can be filled in with any commodity at any given unit of weight or measurement. Crop insurance is written on the total value of the grain, which could easily be changed to read hundredweight.

Finally, a number of agencies of the Federal and State government would be affected because of the necessary revision of statistics to the new basis, changes in procedures and forms, and adjustment in regulations. In general, the change would result in a simplification of the work in the Government agencies. The problems encountered during the change-over would not be insurmountable, and no long-run disadvantages would result.

So there you have it—the pros and cons, the advantages and disadvantages as seen by the industry itself.

The question remains. Should the trading unit be changed from the bushel to the hundredweight?



Midsummer TURKEY TIME

SUMMERTIME, holiday time, any time is turkey time. That's what turkey growers and their industry believe. And again this year, they are setting out to prove it.

July 25 to August 4 are the dates the industry has designated for its 1957 Midsummer Turkey Time promotion.

The plans offer an opportunity for everyone who sells food in any of its forms to participate and gain by the promotion. USDA is helping through its Plentiful Foods Program.

The major merchandising effort is to get consumers interested in turkeys earlier in the year. Turkey growers believe their product packs too much value to be confined merely to the traditional Thanksgiving and Christmas feasts. They've been boosting production sharply and extending the marketing period.

Last year, under the leadership of the National Turkey Federation, they staged a bangup turkey carnival smack in the middle of summer.

The plan worked well, and Midsummer Turkey Time became one of the year's major food promotions. Consumers got interested in turkeys early, stayed interested through the year. More turkeys were sold in 1956 than ever before.

Encouraged by this success, turkey growers are planning an even bigger turkey time this midsummer—and with it an even bigger promotional campaign.

A record number of turkeys was carried into the year, in storage, and growers are again boosting production. The January intentions report envisaged a 10-percent gain over last year.

This makes 1957's marketing task a big one. But still not too big to handle. There's ample evidence of a rich potential in turkey merchandising.

Food specialists in Agricultural Marketing Service proved this recently in a test directed at one phase of turkey marketing—institutional feeding. The pilot project was run as part of USDA cooperation with the industry's marketing activities.

The idea was to test how much turkey consumption could be boosted, in a mass feeding operation, by a concentrated merchandising campaign. USDA's own cafeterias in the South Building in Washington were the places. April 4th was the date.

Buying the turkeys, planning their use, portioning and pricing, all followed sound cafeteria practice. The news was in the merchandising:

A week before turkey day, corridor posters teased USDA workers to watch for a surprise. Three days ahead, the corridor posters switched to an announcement of the luncheon special—roast turkey, dressing, giblet gravy, cranberry sauce. The day before the promotion, table tents went on all cafeteria tables and special flyers on all menu bulletin boards. On the day of the promotion, special turkey signs went on menu boards in the cafeterias, and personnel donned special badges calling the diners' attention to turkey.

What happened? USDA cafeterias sold out!

Veteran manager Everett L. Lommasson had bought 30 birds, a generous supply according to previous experience. But all the luncheon specials were gone by 1:30—with another half-hour still to go before closing time in the cafeterias.

Department workers who chose to eat late that day found themselves too late. They had to be content, not with the turkey special, but with a turkey scallop made from the same birds.

Materials used in the USDA campaign have been assembled into kits to make a model campaign for use in other mass feeding operations. Results of the test are being widely reported in the institutional and poultry press.

Let's Celebrate !
because . . .
IT'S
TURKEY-TIME
ALL YEAR 'ROUND !



Here's How They Sold

MORE CORN IN BEAN TOWN

By Dan Alfieri



TRADITIONAL as the bean may be in Boston, concerted efforts of the New England food trade sparked demand for corn by the can and by the carlot in the past several months. Canned sweet corn in all its golden glory became the "buy-word" in the land of the bean and the cod.

The story starts with the bumper crop of sweet corn harvested last year. Out of it, canners packed a record supply of corn. And as a result, the food industry faced the problem of selling more canned sweet corn than had ever before been moved in a single year.

To help solve the problem, industry and government joined in a nationwide campaign to stimulate consumption. The U. S. Department of Agriculture, through a special plentiful foods program spearheaded by the Agricultural Marketing Service, gave the full support of its information and food trades facilities to the canned corn campaign.

In Boston—the hub of New England—Harry W. Watling, AMS representative, and 26 members of the food trade set up the first organizational meeting and planned an intensive local drive. Container manufacturers, as well as fish and meat packers, also agreed to tie-in advertising and promotion.

Peak merchandising coincided with "Case O'Canned Corn Week," January 23 to February 2. Highlight of

the campaign was an industry-sponsored "Corn Buffet," in cooperation with the USDA, at Back Bay's fashionable Somerset Hotel. Maine, Maryland, and Wisconsin packers, food wholesalers and brokers displayed their canned corn products in an exhibit room.

Since the buffet featured corn and pork, and corn and fish fillet recipes developed by the USDA, representatives of the meat and fish industries shared in exhibit space.

A showmanship flair centered on an attractive "Miss Corn Queen," and Chef Louis Turco of the Somerset, who deftly prepared unique corn recipes for the diners. On-location coverage by WBZ-TV cameras and press representation dramatized the importance of pinpointing support of a national campaign at local levels.

The buffet attracted 131 people associated with the field of food and communication. They included over 50 New England radio and television food broadcasters, food editors, writers, and food advertising executives.

The buffet provided the impetus—the right tone—to the campaign, by uniting producers, wholesalers, and marketing and consumer information groups. And it became the machine that generated an enthusiasm that netted excellent results. This approach to a marketing problem can be used in other trading areas with results that compared with those that followed in New England.

Dan Alfieri is an AMS information specialist, New York area office.

Electronic Detection of Blood Spots in Eggs

By John A. Hamann

FIRST commercial tests of a USDA-developed electronic detector of blood spots inside eggs indicate the device is considerably more accurate than human candling.

On a commercial grading line designed and constructed to incorporate its use, the detector decreased the error in blood spot detection some 90 percent. It also increased grading line production about half a case per hour within certain quality limits.

This spectro-photometric method of detecting blood in white eggs was developed by A. W. Brant and Karl H. Norris as part of the quality evaluation research program of USDA. A private instrument company developed the commercial device.

Actual testing of the equipment under commercial conditions was conducted in a San Diego plant handling high-quality white eggs. Participating were AMS personnel from the Transportation and Facilities Branch, Market Organization and Costs Branch, and the Biological Sciences Branch.

Capable of scanning up to 7,200 eggs per hour, the detector makes use of a light source coupled with an electronic device that is sensitive to the color of blood. When the light encounters the blood, a tripping device automatically diverts the eggs.

AMS industrial engineer recorded time-motion data during tests.



At the California plant, the detector was installed alongside a line using regular candling techniques, and AMS researchers compared the two systems. They made time studies to measure labor inputs for each operation. They also determined facility and equipment requirements and calculated operating costs.

Each line included comparable grading and packing facilities equal in grader and packer reach. The experimental line included facilities for grading out surface defects and also an area where the eggs were lighted from below to permit removal of cracked eggs.

After the eggs had passed through the lines, USDA graders rechecked for blood spots. More than 21,000 eggs that had gone through the detector were rechecked. Rejecting blood spot eggs at the rate of 2.2 percent, the machine missed 0.38 blood spots per thousand.

When the licensed graders rechecked eggs coming through the line without the detector, they found the candlers had rejected blood spot eggs at the rate of 0.2 percent, but had missed 3.9 blood spot eggs per thousand. This means the electronic detector decreased the error in blood spot detection by some 90 percent.

First tests of the detector in commercial operation show that the line with the detector can move about half a case more per grader per hour than the line without the detector. This comparison is based on the grading of 60 percent A quality or better eggs with acceptable limits of grading accuracy.

These early studies definitely raise the question of whether the electronic detector will make it possible to eliminate hand-candling of white eggs. Scientists now conceive this as possible, provided the egg-grading plants receive uniformly fine quality eggs that have only small quantities of shell defects.

The current U. S. marketing margin for eggs averages about 18 cents per dozen. Candling and packing costs account for one-fourth to one-half of this margin.

Economists now believe that commercial adoption of the new device will mean lower marketing costs for white eggs of uniformly high quality. This means further economic pressure toward large commercial flocks that produce such a uniformly high quality product.

AMS scientists are quick to point out that the electronic detector is a new device that is far from perfection. Extensive work is already underway to increase its accuracy and speed, and to overcome shell color limitations. At present, it can detect blood spots in only white eggs, since the pigment in brown shells represents nearly the same color as blood.

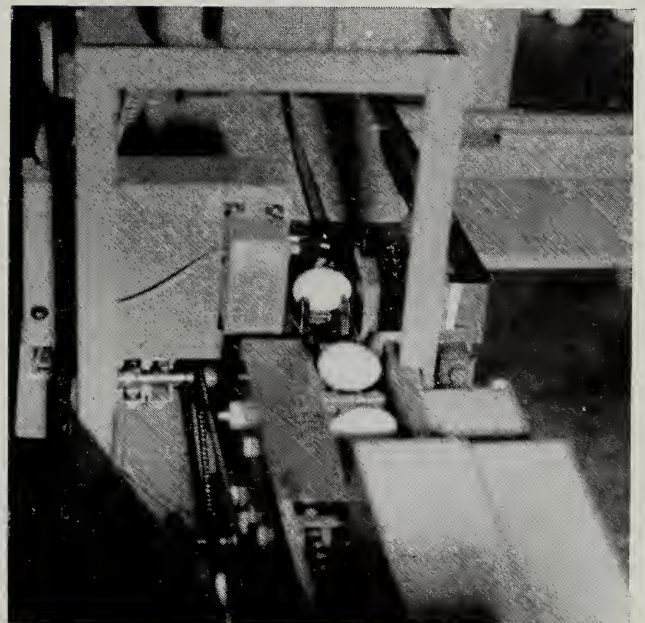
John Hamann is a marketing research analyst in the Transportation and Facilities Branch of Agricultural Marketing Service.



An infeed roller conveyor of sufficient length to permit ready transfer of six rows of eggs from case to grading line was built into the experimental line.



This device converts rows of eggs into single file for detector.



120 eggs per minute pass before electronic scanning mechanism.

When detector encounters a blood spot, a tripping device diverts the egg from the pack. The three eggs on the left have been rejected by the machine. Others are ready for packing.



DAIRY marketing men are taking a closer look at the U. S. market and seeking new or better ways to sell their products. There is a good reason. They want to close the gap between production and consumption of milk and milk products.

The task is not an easy one. Milk cows and dairy farmers continue their record-breaking pace.

Milk cows produced almost 126 billion pounds of milk in 1956 as production per cow hit a record 6,006 pounds. Dairy farmers sold over 111 billion pounds as milk or cream, up 3 billion pounds from 1955.

But this year, milk cows—and there are now 1 percent fewer of them—are giving dairy marketing people an even bigger job to do. Herbert C. Kriesel, editor of USDA's DAIRY SITUATION, sees dairy farmers and processors faced with the problem of marketing 2 billion pounds more milk during 1957 as cows continue to produce at record levels.

This is a very formidable task since milk production has exceeded commercial usage by around 5 billion pounds. The amount of milk sold by farmers actually has increased faster than production. Reason is that the quantity of milk used on farms has been declining—because of the drop in production of farm-made butter and because fewer farms produce milk.

Prospects are that production of milk per cow will increase by 20 percent in the next decade. The growing U. S. population will, of course, consume some of the increase. But not enough to close the gap. It will have to come from increased consumption per person.

This will take some doing. In 1956, even though real incomes of consumers were at a record high level, per person consumption of dairy products from commercial sources was the lowest on record.

To help the dairy industry with the job of marketing

MOVING THE

the increased milk supply, AMS specialists Mardy Myers and Tom J. Lanahan, Jr., have prepared reports on merchandising trends and consumption patterns.

Perhaps from these, the reader may find clues for closing the production-consumption gap.

Consumption Patterns for Dairy Products

By Thomas J. Lanahan, Jr.

Clues to markets for dairy products emerge from USDA's 1955 HOUSEHOLD FOOD CONSUMPTION SURVEY. It's a study on how U. S. households spend their food dollars.

Here are some highlights on dairy products:

About 17 percent of the total amount spent for food used at home, in the spring of 1955, went for dairy products. Only meats accounted for a larger share of the food dollar—25 percent.

Of the money spent for dairy products, about half went for fluid whole milk; ice cream and cheese took 14 percent each; butter accounted for 11 percent.

Households in the Northeast Region were the heaviest spenders for dairy products, both in actual dollars spent per household and in the share of the food dollar. Southern households spent the least.

Those are some of the highlights. But there is a wealth of information in the study for the man who is marketing dairy products; for example, a comparison of farm and nonfarm household purchases.

Nonfarm households spent 17 percent of their food

continued on page 12



MILK SUPPLY



MOVING THE MILK SUPPLY

continued

dollar for dairy products, while farm households spent only 14 percent. Farm households did not consume a smaller quantity, *they purchased considerably less.*

When dairy items from all sources were included—those bought, home produced, or received as gifts or pay—the money value of these products consumed by farm households totals 22 percent of the value of all food used at home.

But home production of dairy products is on the decline—fewer people are living on farms, fewer farm families are keeping milk cows for their own needs.

Farm to nonfarm population shifts are most active in the South and North Central States. Here is where the dairy industry might expect an increase in the demand for commercially supplied dairy products.

Yet, there is the possibility that this movement of population will adversely affect per person use of dairy products. For example, nonfarm households in the North Central area consumed 2.4 quarts of fluid whole milk per person weekly compared with 4.2 for farm households. Here, then, is part of the market where the dairy industry will have to take a hard look and use their merchandising techniques to maintain the dairy product consumption of newly urbanized families.

The urban dairy market differs considerably among regions. Some of this comes from differences in incomes of households, but some cannot be directly attributed to current income. Use per person of dairy products ran significantly lower in the South than in other regions for urban households in each income group below \$6,000 in spring 1955. But higher income households used about the same amount of dairy products as a group in all parts of the country.

Consumption of individual items varies by region and by income. Butter consumption by urban households increases with income in very region, even in the higher range of incomes. Higher income households are by far the heaviest buyers of dairy firms' big profit item—cottage cheese, as well as fluid skim milk. But higher income families in the South and Northeast buy much less cottage cheese than those in the West and North Central regions.

Income shows up as an important factor in the use of ice cream. As you go up the income scale, the quantity of ice cream used becomes greater—but there is considerable variations among regions.

One of the most interesting items on ice cream is the low rate of consumption per person for the urban area in the Northeast—a fourth of a quart per person,

but a third of a quart for the U. S. as a whole. On a per person basis, ice cream appears to find its strongest support in the farm areas of the Northeast and North Central—almost a half a quart a week.

Again and again, we find ourselves pinpointing the high and low points in consumption. We are often asked why talk about the high levels when it's the low levels that need the market development.

The high points are just as important to the market analyst as the low points. When he knows the region, urbanization, and income characteristics of the high-consuming group for a given commodity, he has the benchmarks needed for planning special market surveys to get at the whys of high consumption. Findings from this supplementary research can then be applied to develop the markets of low-consuming areas.

Individual dairy foods face different marketing problems, partly because they include beverages, table fat, side-dish items, toppings, and desserts. Much of the value of the 1955 Survey for dairy market analysts comes from its comprehensive coverage of *all* foods which compete with every one of the dairy items in every phase of eating at home.

For example, an important problem for fluid milk demand is what can be done about maintaining the milk-drinking habits of children as they grow into the teenage group and into adulthood. Survey data show that consumption of fluid milk in urban households tends to level off in the higher income groups but use of other beverages goes on up. Along with this pattern consider the fact that the proportion of children under 10 years is highest at the \$4-5,000 income level, then runs much lower in the highest income groups.



Many other facets of the competition of dairy items with foods from other sources can be charted with the new survey data. Then special market surveys will have to be designed to delve more deeply into the underlying factors and to find out how food habits unfavorable to the food industry can be changed.

Merchandising Dairy Products

By Mardy Myers

Dressed up in new packages, dairy products are keeping pace with modern merchandising trends. They are appearing in gay multicolored foils, attractive paper cartons, and crystal-clear plastics. They have assumed new shapes and forms.

All this fancy dress is aimed at increasing the level of consumption of dairy products. And it's not all for show. Much of the redesigned packages and eye-catching cartons have a utilitarian purpose. They are devised to give consumers the dairy products they want in the size and form they want them.

That's why you no longer see milk in round glass bottles with a cream line, butter that is cut to order from a tub, or cheese sliced from a slab in the grocery store. These have been replaced by homogenized milk in paper cartons, butter neatly packaged, and cheese prepackaged in foil and cellophane.

But one of the biggest changes has been in ice cream. No longer is it simply vanilla, chocolate, and strawberry. Countless flavors are now being offered, and more are in the making.

More freezer space in the home has enabled the industry to market ice cream in half-gallon containers.

These are but a few of the many merchandising changes that have come about since World War II. Others are still going on. And for the dairy industry it is important that their value be appraised.

This is one of the functions of the Market Development Branch of the Agricultural Marketing Service. Its monthly reports on household purchases of selected dairy products (butter, cheese, nonfat dry milk, and fluid milk) show the effects of these changes in merchandising methods.

For example, data for April 1956 to March 1957 indicate the growing popularity of the half-gallon milk container. During this period, householders bought about 40 percent of their milk in the half-gallon compared with about 27 percent in the 12 months ending March 1955. At the same time, use of the single-quart container declined.

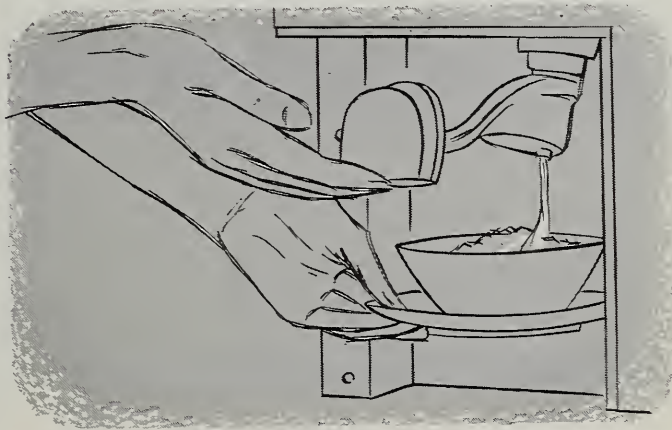
Household purchase data showed that following the introduction of "instant" nonfat dry milk in late 1954, sales to home users increased sharply. In 1955-56 they were 20 percent greater than in 1954-55.

As a special research project, the Market Development Branch turned up valuable information on how to increase sales of natural cheddar cheese in retail stores. This study indicated that this type cheese sold best when offered in a choice of weights up to

2 pounds rather than just the smaller size packages. Also, when both instore and prepackaged cheese were offered to the consumer, sales increased.

Merchandising studies for butter, such as testing different display size and location of the product, have not yet uncovered merchandising techniques with a significant effect in increasing total sales. Perhaps the housewife must be influenced before she reaches the store and out-of-store promotion is necessary to increase butter sales.

Facts such as these are of interest to the dairy industry, which is always looking for ways to expand current markets. At the same time, it is searching for new ways to increase sales of its products.



The newly developed home milk dispenser may be one of these. If families become interested enough in the appliance, it could possibly mean more milk consumption in the home.

Further, it could lead to a new merchandising method for milk. The dispensers, which are small refrigerators equipped with spigots, hold two removable 3-gallon containers. If the dispensers are generally accepted, it could mean home delivery of milk in 3-gallon containers.

The Colorado and Idaho Experiment Stations have been making studies to learn whether homemakers like the new dispensers. As yet the Colorado survey is not complete. But in Idaho most of the housewives who tried out the appliance agreed on its convenience. They, however, wanted to be able to save 2 to 6 cents a quart on the milk.

Tied in closely with all this merchandising have been sharply accelerated campaigns to promote the use of dairy products. The American Dairy Association, the American Butter Institute, the National Cheese Institute, the Evaporated Milk Association, and many other organizations at the national and local level are all encouraging the use of dairy products.



Hydrocooling and Shipping PEACHES

By W. H. Redit and W. L. Smith



SHIPPING tests with Pennsylvania and South Carolina peaches have pointed up the need for better containers and temperature control when shipping completely ripe fruit.

Researchers of Agricultural Marketing Service found severe bruising and decay in shipping such ripe peaches. These marketing researchers feel that better precooling practices, coupled with improved transit management and better shipping containers, would bring the shipment of riper peaches closer to reality.

The tests demonstrated that the common practice of

hydrocooling peaches in ice water fails to increase the firmness of ripe fruit enough to prevent all damage and decay during shipment, although hydrocooled peaches do suffer less bruising and decay than non-hydrocooled fruit.

In most cases, the ripe peaches increased slightly in firmness during the hydrocooling process, but when they warmed to their original temperature, the average firmness was considerably below the original test. Increases in the firmness of "firm ripe" and "hard" fruit due to hydrocooling were not measurable.

Twenty-one truckloads of peaches were included in the AMS 1955-56 studies.



In other words, hydrocooling does not appreciably affect the firmness of the kind of fruit ordinarily shipped commercially, but lowering fruit temperature through hydrocooling does lower transit and storage losses—provided low temperatures are maintained during transit.

Test fruit ranged between 78° and 90° F. before commercial hydrocooling. During the 10 to 24 minutes necessary for the fruit to pass through the cooler, the temperatures were usually lowered 20 to 25 degrees.

These studies show, however, a wide range in the temperature of peaches leaving hydrocoolers, depending on how well the operators watch the hydrocoolers. Researchers point to the importance of constant supervision of icing in order to maintain a desirable water temperature of 32° to 34° F. Hydrocooling equipment also must have the capacity to handle the volume of fruit coming from packing lines without crowding or moving the fruit through too fast.

A total of 21 truckloads of peaches was included in the two-State studies, which were conducted during the 1955 and 1956 peach seasons. Check loads included ice-refrigerated trucks and uncovered trailers, and shipments consisted of both hydrocooled and non-hydrocooled peaches. Some of the fruit was cooled in plain ice water, some in ice water containing chlorine, and some in ice water containing a 0.1 percent solution of Dovicide A.

Shipments from the Spartanburg, S.C., area terminated in New York, Washington, and Chicago. The Pennsylvania shipments originated in the vicinity of Chambersburg and ended in New York or Chicago.

Peaches ripened somewhat during the transit periods in almost all tests. Generally, the least ripening occurred with transit temperatures averaging less than 55° F., and the most in those averaging 60° or above. More ripening occurred in the peaches that were not hydrocooled before shipment.

One surprising conclusion drawn from the test data

was that more decay developed in “hard” fruit than in “firm ripe” fruit. This is probably due to the longer holding period required for the hard peaches to become edible.

As expected, the most mature peaches in the tests showed the highest percentage of severe bruising. When the fruit ripened during transit to a firmness of approximately 9 pounds, severe bruising developed.

Under the conditions recorded in these tests, transit temperatures were not low enough to appreciably arrest the ripening of peaches classed as “firm ripe.” Ripening was delayed in the case of “hard” fruit.

The truck-trailer equipment used in the tests was generally able to maintain the temperature of the hydrocooled peaches in transit, though many were on the borderline. Records obtained from recording thermometers placed in the baskets of fruit in the test loads indicate that some of the operators failed to maintain proper icing in their trucks.

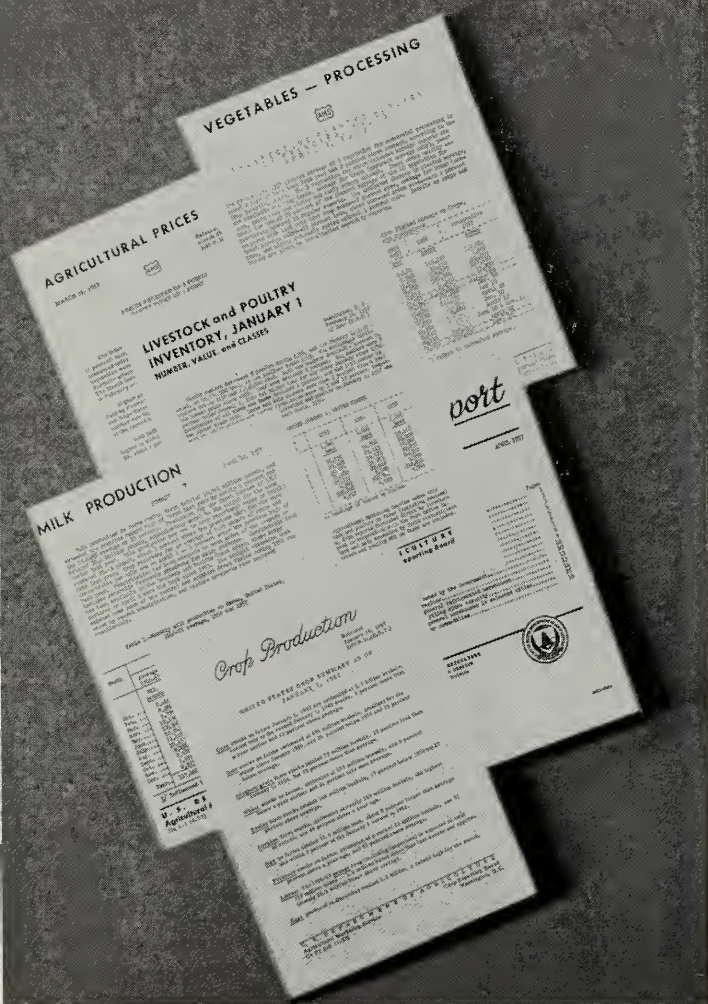
The desired goal of reducing marketing losses in peaches will be much closer at hand when the Food and Drug Administration approves and sets up residue standards for using Dovicide A in hydrocooling water.

A close check of all test lots of fruit showed that the use of a 0.1 percent solution of Dovicide A in the cooling water greatly reduces or entirely eliminates brown rot during transit and holding periods.

Tolerances have been established by F & D for use of this chemical on apples, pears, and certain citrus fruits, but residue limits have not been set for peaches. Approval will be necessary before the fungicide can be used on peaches.

Reduction of Rhizopus rot by the same fungicide was spotty and generally less effective. Tests showed that chlorine, now generally used in hydrocooling water, is far less effective than Dovicide A.

W. H. Redit is a senior mechanical engineer and W. L. Smith a pathologist in the Quality Maintenance and Improvement Section, Biological Sciences Branch, AMS.



FACTS MAKE

THE MARKET is a poor place to play blindman's buff. Yet's that's exactly what happens when a fellow goes into the market place blindfolded—without any facts on production, supplies, and prices of farm products.

Getting these facts to the farmer and the marketing man is a service performed by the Agricultural Estimates Division of AMS in cooperation with all of the States. Through their Crop Reporting Board, the Division now issues more than 500 reports a year on 150 different farm products.

If you take into account that many of these products are broken down into several different categories—such as 3 different kinds of wheat, 5 seasonal breakdowns on the potato crop, etc.—the number of farm products for which reports are issued will run up to several times that number.

All of the reports are issued on a definite schedule, announced a year in advance. Thus, everyone may be advised in plenty of time of the day and hour at which each report will be released.

Some reports are issued on a weekly basis; a great majority, each month; some, quarterly; others, semi-annually and annually.

All are designed to help the farmer and the man in the market get his sights on the quantity of farm commodities that is likely to come available at any given time and thus enable the market to function in an orderly fashion.

It would take a 13-page bulletin the size of this publication to list all the reports issued by the Crop Reporting Board. But a quick review of a few of the reports gives a good idea of the scope and variety of the material issued.

Running quickly through the season for crops, there are, first of all, the “farmers’ intentions to plant” reports. These are used in many ways by farmers. From the marketing man’s standpoint, they provide a preview of what might be expected in the way of supplies during the coming crop season. They are not forecasts of probable production because farmers may change plans if it looks as though too much or too little of any commodity is going to be produced. In a general way, they are pretty good indicators of the probable trend.

After plantings are about complete, a report is issued on the acreage of crops planted. This is issued in July for most crops but for winter wheat and rye the planting report comes out the previous December. For many of the commercial vegetables, the planting report is timed to the actual operations in the field.

From planting time on, the Board follows the progress of the crop and issues reports, usually each month, indicating the probable yield and production.

Blindman's buff

is a poor game

to play in the market place

THE DIFFERENCE

By Sterling R. Newell, Chairman, Crop Reporting Board

Along with this production information, the Crop Reporting Board issues quarterly reports on stocks of corn, wheat, oats, barley, and other grains held on farms, and monthly reports on the stocks of a large number of commodities held in cold storage.

Turning briefly to livestock, the scope of reports issued for the guidance of producers and the market is equally broad. Here the basic report is the one that shows livestock inventories, as of January 1. Our meat supplies during the year are dependent to a large extent upon this basic inventory. However, this is not sufficient information to guide the market throughout the year so a number of additional reports are made.

For example, the Board issues quarterly reports on the number of cattle on feed in leading States. From these reports one can predict with some accuracy the probable supply of fed cattle that will come to market 2 or 3 months in advance.

Pig crop reports showing sows farrowing and inventory numbers are issued quarterly for nine major hog-producing States. In addition, the pig crop reports in June and December cover all States and show the pig crop for the past 6 months and prospective farrowings for the next 6 months as indicated by breeding intentions.

These probably are the most important reports that guide hog marketing through the year. Accompanying these are monthly reports showing commercial livestock slaughter and meat production.

For the poultry producer and marketing man, two very important marketing guides are the monthly reports on hatchery production and egg production. There are a number of others.

With the rapid expansion of broiler production, one of the most significant marketing reports is that on broiler chicks placed in 22 States. It shows the number of eggs set, chicks hatched, and broilers placed by weeks. From this report one can determine within a very narrow range the number of broilers coming to market 9 to 10 weeks hence.

Even with this very brief review of some of the reports provided by the Crop Reporting Board, it seems evident that orderly marketing would be difficult without these services.

No one can do a job of marketing without knowing what he has to sell, how much he could sell it for, and where the supply is located. The Crop Board tries to supply this basic information, and it is freely available to all who request it.

Information is supplied through the voluntary cooperation of somewhere around three-fourths of a million men and women concerned with the production, marketing, and distribution of agricultural products.

Around 600,000 farmers and ranchers voluntarily report on their operations. Some 83,000 local merchants provide information on prices received by farmers for commodities which they sell and prices paid for commodities they, the farmers, buy.

About 8,500 ginners; 14,000 mill men, elevator and warehouse operators; 6,000 hatcherymen; 28,000 dairymen; and 4,000 meat packers all cooperate in providing information on their operations to help make this the most comprehensive crop and livestock reporting service in the world.

With this kind of information available, no one needs to play blindman's buff in the market place.

FORMULA FOR EFFICIENCY IN ORDER HANDLING

By Robert K. Bogardus

A WHOLESALER of fresh fruits and vegetables who formerly employed a 9-man crew to load his delivery trucks now gets the same job done with a crew of 4—and without any new equipment.

The formula for this efficiency lies in the order assembly and loading procedures. Reorganizing the work schedule of the crew and rearranging the produce along the conveyor belt made the difference.

Changes followed the recommendations of AMS industrial engineers who studied the truck-loading operations of the fruit and vegetable wholesaler.

The wholesaler originally used a 9-man crew to load his delivery trucks. Seven men loaded packages on a motorized conveyor belt leading into the truck, one man stowed packages in the truck, and a checker called out the items listed on the invoices. With this crew, each ton of produce loaded on the truck required 0.78 man-hours.

AMS time studies showed that too many men worked on the belt. Often 5 or 6 were idle at a time.

So, the loading crew was reduced to 6, with only 4 moving merchandise onto the belt. Now, it required 0.63 man-hours to load a ton of produce—a reduction of 19 percent.

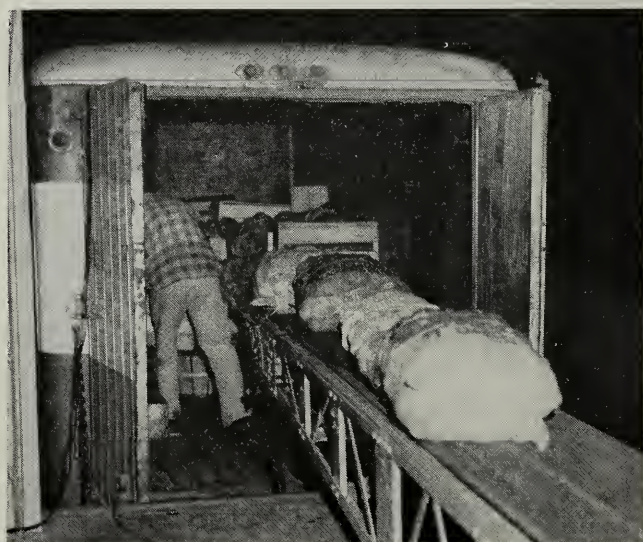
But researchers recommended still another reduction in the crew. In the third test, only 2 men loaded the belt conveyor, with a checker and a truck loader completing the crew. With this arrangement, the time was even further reduced. It took only 0.46 man-hours per ton—41 percent less than was required by the crew of 9 men.

From this, it would seem that the 4-man crew was the most economical and efficient. Indeed, it was. But, not with the old system of order assembly and work assignments. The former organization of commodities in the area of the conveyor and the work schedule made it impossible for this minimum crew to perform efficiently.

Men working the belt often had to leave to make up a split package to fill a particular invoice. Or they



When using a 9-man crew, several belt loaders often stand idle.



Produce moving on conveyor belt is stowed in truck by one man.



Split packages are pre-assembled before truck-loading operation.

had to go to a cold storage room to locate packages that had not been brought to the conveyor.

Invoices were written in long hand and were often hard to read. The order of the commodities around the belt was haphazard, the work aisle too wide.

These difficulties had to be cleared up before the 4-man crew could operate efficiently. As a first step, AMS researchers took a look at the way the produce was arranged around the conveyor belt.

They found that 10 commodities accounted for approximately two-thirds of the total tonnage shipped. These were apples, bananas, oranges, beans, cabbage, celery, lettuce, onions, potatoes, and tomatoes.

These commodities they placed nearest the belt and as close to the truck loading dock as possible. Half the tonnage went on one side of the conveyor; half on the other. Next, researchers arranged these same produce items at the top of the order sheet. The rest of the commodities followed in alphabetical order under one of two headings—"fruits" or "vegetables."

Again, the latter groups were divided with equal tonnage on each side of the conveyor. The purpose of dividing up everything in this way was to make equal work loads for the two men placing the packages on the conveyor belt.

Meanwhile, clerks transferred the items on the order sheets to the invoices. Items appeared in the same order as the produce was arranged along the conveyor. Although preprinted invoices would have simplified the job of order taking and eliminated the need for copying the information, these were not available for use in the study.

Another necessary step before loading was an accurate recap of all items on the invoices. This recap

indicated the quantity of merchandise to be loaded on the trucks. It gave the members of the crew an accurate list of just what produce to assemble around the conveyor. It eliminated later delays that might occur if a belt loader has to leave the area to locate an item in a cold storage room.

The recap with its commodity groupings also serves as a convenient aid in job assignments. It can actually be cut into parts with each part assigned to a different worker, who would bring the indicated commodities from storage to the order assembly area.

Or, it can be used for split orders. When carefully tallied on the recap, all split packages can be handled by a warehouseman as a separate job assignment. Formerly, a belt loader made up these splits whenever the checker called for them. Now, they are prepared in advance.

Using all these suggested changes, the 4-man crew again loaded the trucks. Productivity was improved still further. The man-hours per ton was now 0.38—51 percent less than with the original 9-man crew using the old method of order filling. The 4-man crew's efficiency was bettered another 21 percent.

Although employing a larger crew means faster loading of a particular truck, the data collected by AMS industrial engineers indicate that the time saved is not great enough to offset the added cost. A 4-man crew using the new plan of order assembly and loading took 0.094 hours of elapsed time per ton, compared with 0.087 per ton for the 9-man crew working under the old method. However, preprinted invoices could reduce and even eliminate this difference.

Complete assembly area showing 4-man crew in loading position.



WHEAT STANDARDS REVISED

June 15 may be just another day for some people, but for the grain industry—and more particularly for the producers, handlers, and processors of wheat—it's the day the revised wheat standards go into effect.

For the first time in over 20 years, U. S. wheat standards are undergoing material change.

It all began several years ago when a national conference was called to obtain recommendations from the industry. A year-long study of the suggestions followed; then, public hearings in four major grain cities—Chicago, Kansas City, Minneapolis, and Portland, Ore.

In March, the Grain Division of Agricultural Marketing Service, USDA, announced an official revision of the standards for wheat to go into effect June 15.

Here's what the wheat people will be keeping in mind on that date.

- The grading factor "matter except other grains" has been eliminated from the standards, and the limits for total foreign material reduced. Grade 1 now permits only 0.5% foreign matter; Grade 2, 1%; Grade 3, 2%; and Grade 4, 3%. These percentages compare with 1%, 2%, 3%, and 5% for the respective grades in the old standards.

- Three grades will have reduced limits on shrunken and broken kernels. Grades 1 and 2 previously allowed a 7% tolerance; they can now have only 5%. Grade 3's 10% tolerance has been cut to 8%.

- Wheats of other classes in No. 2 grade now may total no more than 5%. Previously, 10% was tolerated.

- Minimum limits of dark, hard, and vitreous kernels in the subclass Hard Winter Wheat have been increased from "more than 25%" to 40%.

- "Amber Mixed Durum" and "Mixed Durum" are no longer included in the grade designation of the class Mixed Wheat.

- Distinctly low quality must be determined on the basis of the sample as a whole, that is, before the removal of dockage.

Of course, there were other proposed changes. All there were carefully studied, but for various reasons only those listed above were finally adopted.

AMS officials feel that these particular changes will encourage the production and marketing of the wheat qualities most desired by domestic processors and foreign buyers. Wheat in the contract grades will be improved, and wheat exports made more acceptable to foreign receivers. The latter should tend to increase the demand for U.S. wheat abroad.

In normal years, a wheat farmer can produce a crop that will meet the requirements of the top grades. He thus will put a better product on the market and, in turn, receive a better price for it.

At the same time, the standards will encourage high-quality production and will tend to discourage growing of certain types of wheat in areas for which they are not fully adapted.

They also will discourage objectionable mixing and blending operations.

Although the revised standards are not officially effective on the cash market until June 15, they were used in March as the basis for trading in July and September futures contracts on the Kansas City Board of Trade and the Minneapolis grain exchange. Wheat graded under the revised standards was bringing from $\frac{1}{4}$ to $1\frac{1}{4}$ cents a bushel over that graded under the old standards.